Lightning Talk: «Encryption for the masses with pretty Easy privacy (p≡p)»

A rough overview

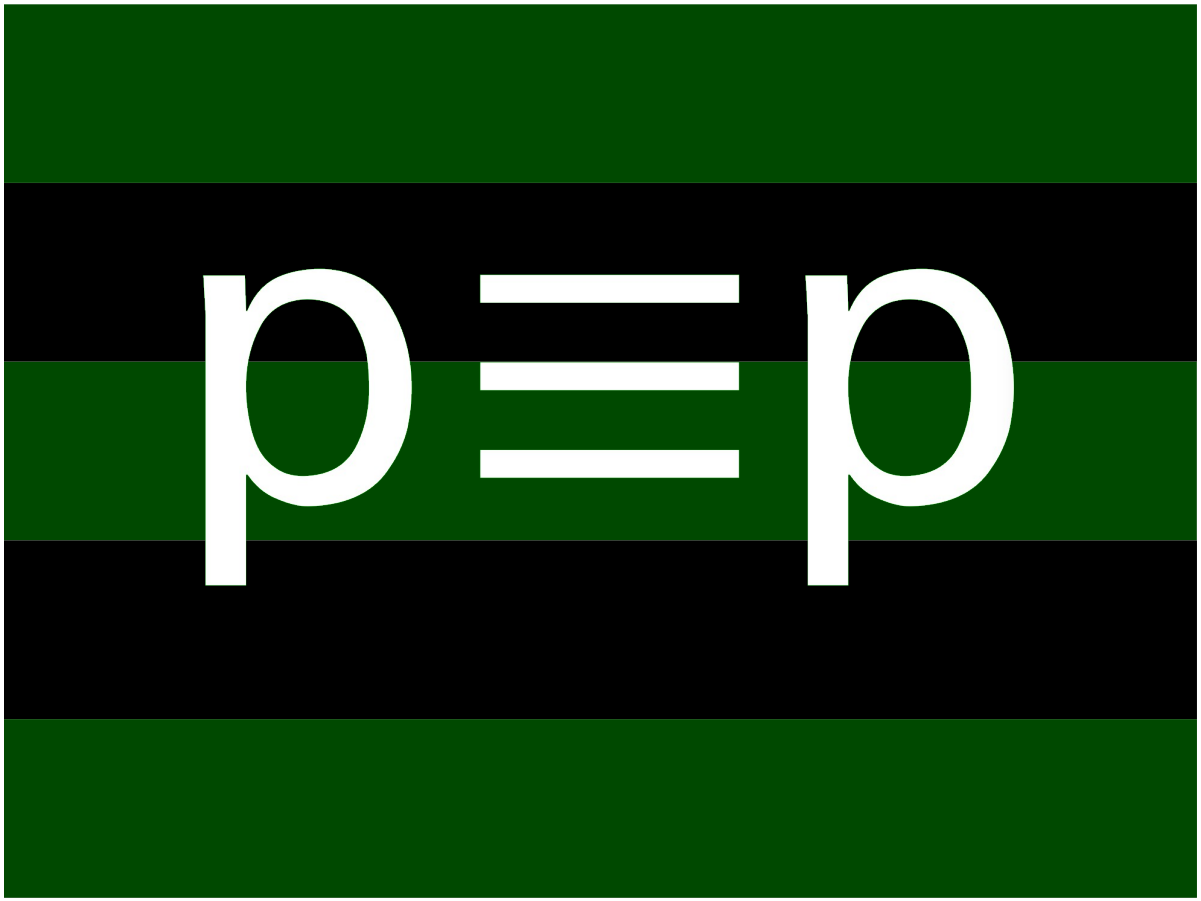
Hernâni Marques, p≡p foundation council member

FOSDEM 2017, Brussels, Feb 4th 2017, 13:40–13:55

Overview for the next 15mins

1. What p≡p is
2. Motivation for p≡p
3. p≡p & OpenPGP: differences and app example
4. To be done
5. Commmunity work
6. Your turn

p≡p = pretty Easy privacy



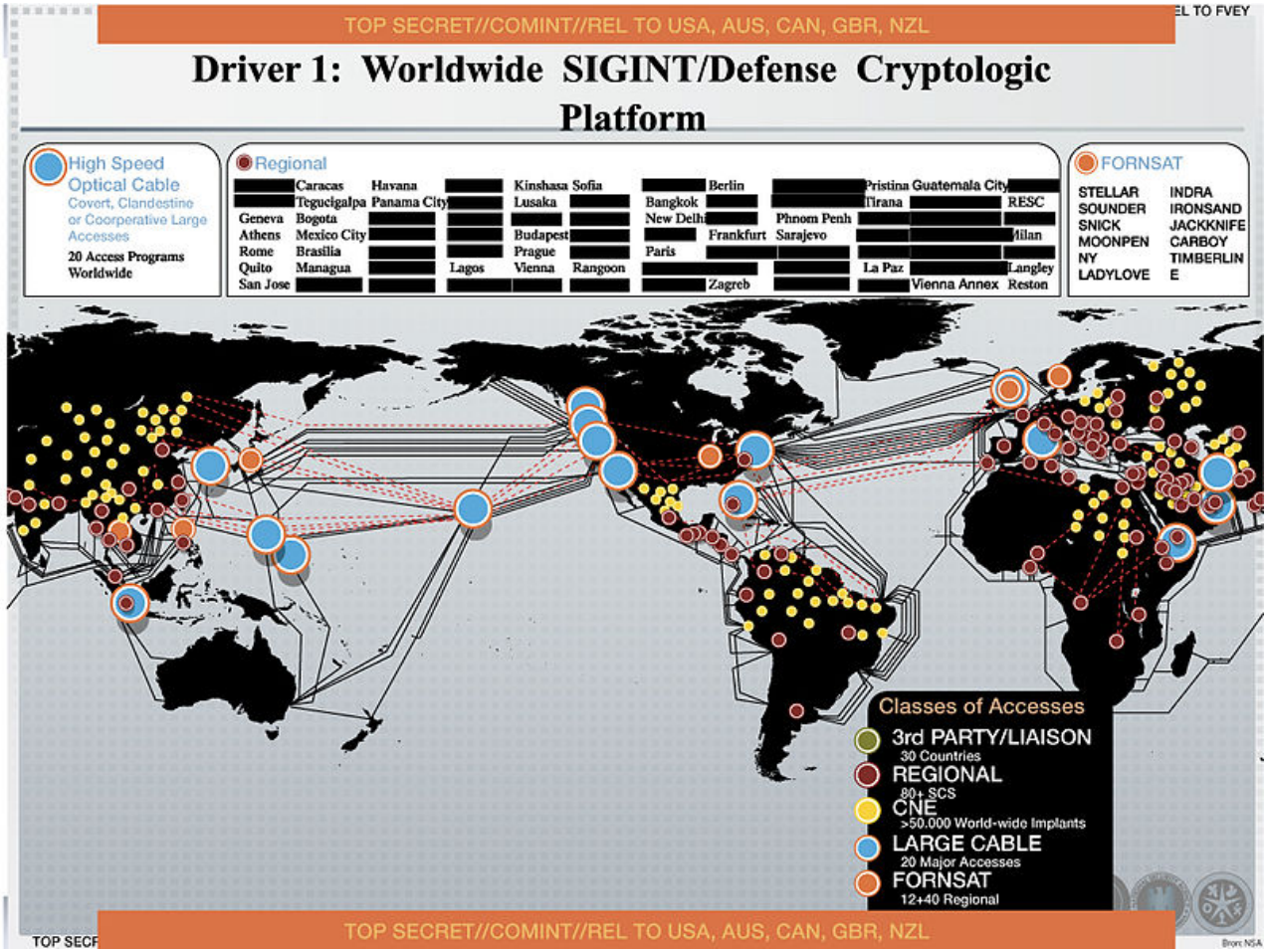
p≡p is not . . .

- yet another crypto tool with closed (small) user base.
- a (centralized) platform provider.
- a crypto project nor implementing any own crypto.
- replacing any existing crypto tool per se.
- just for encrypting email: that's just the beginning.

p≡p is . . .

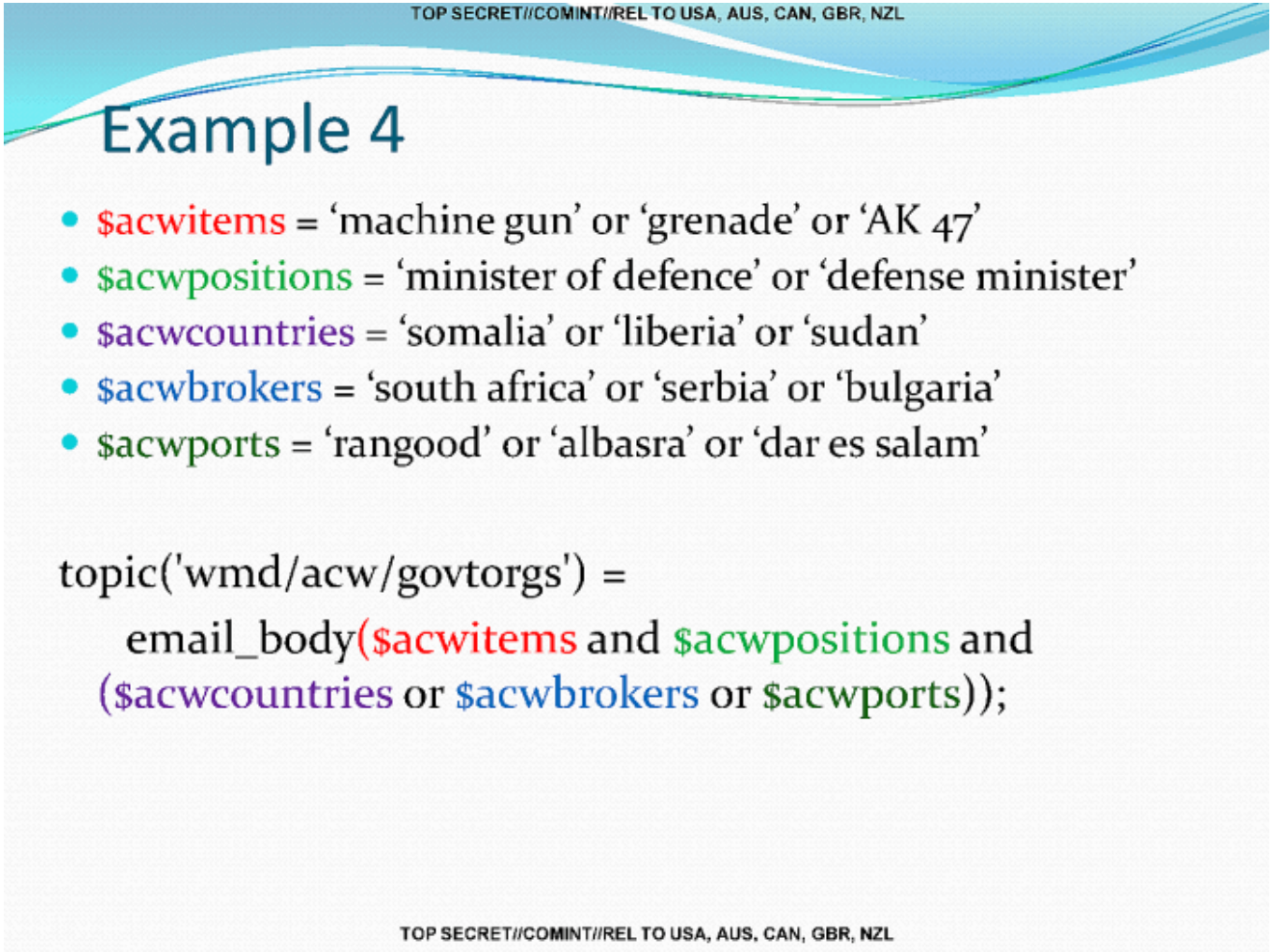
- a cross-platform abstraction to easily use crypto tools already available (like GnuPG).
- designed to encrypt digital written communications, with the starting point of email.
- built with the idea of a unified inbox in mind, so that peers can reach their friends and colleagues in one place (app).
- meant to encrypt automatically whenever and with whatever (most privacy-enhancing) crypto standard available, hence the slogan *Privacy by Default*.
- hassle-free and zero-touch when used in end-user applications.

In a general global context . . .

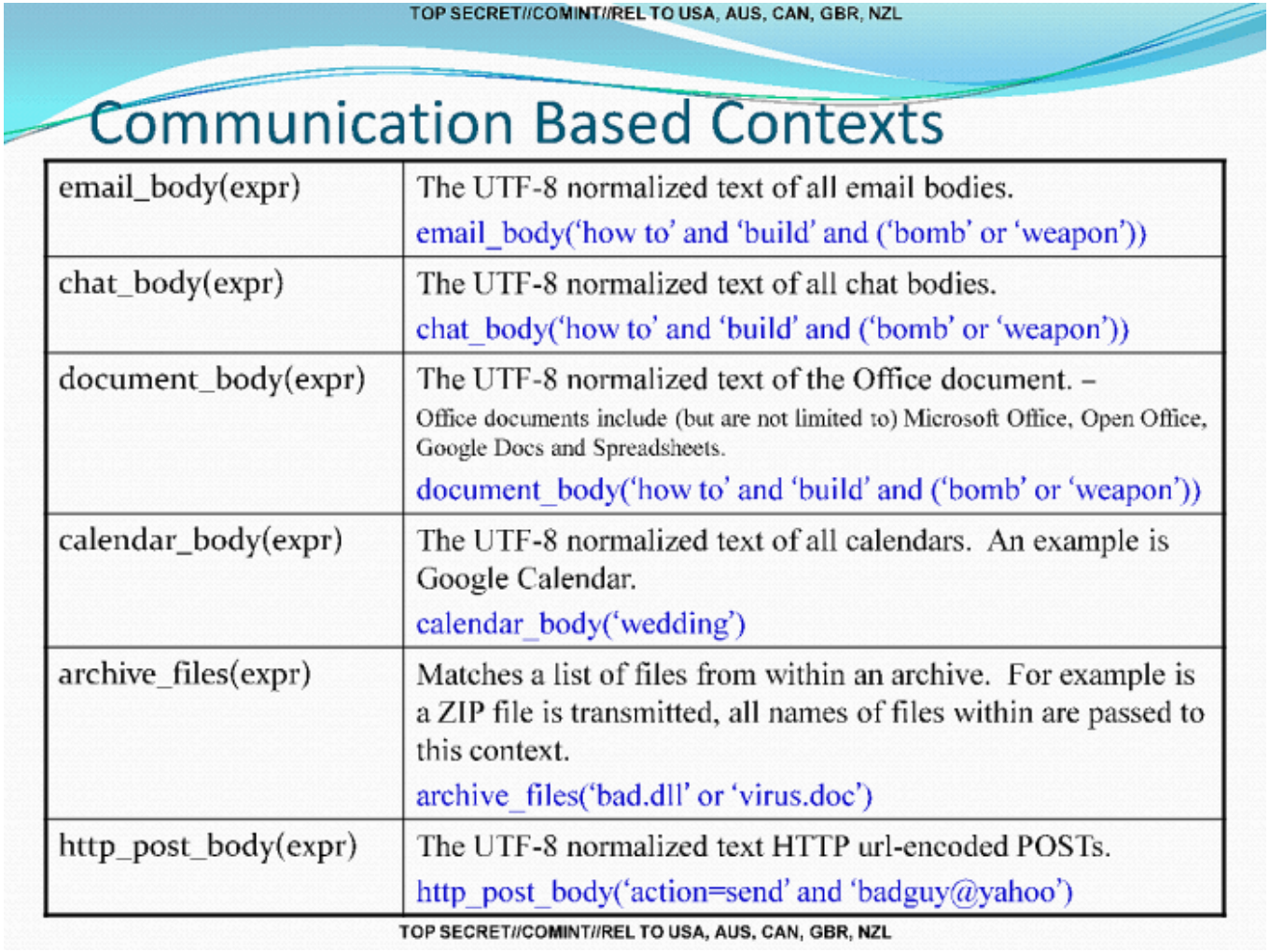


In a general (Swiss) local context . . .

In an email context . . .



In the context of written digital communications . . .



TOP SECRET//COMINT//REL TO USA, AUS, CAN, GBR, NZL

Communication Based Contexts

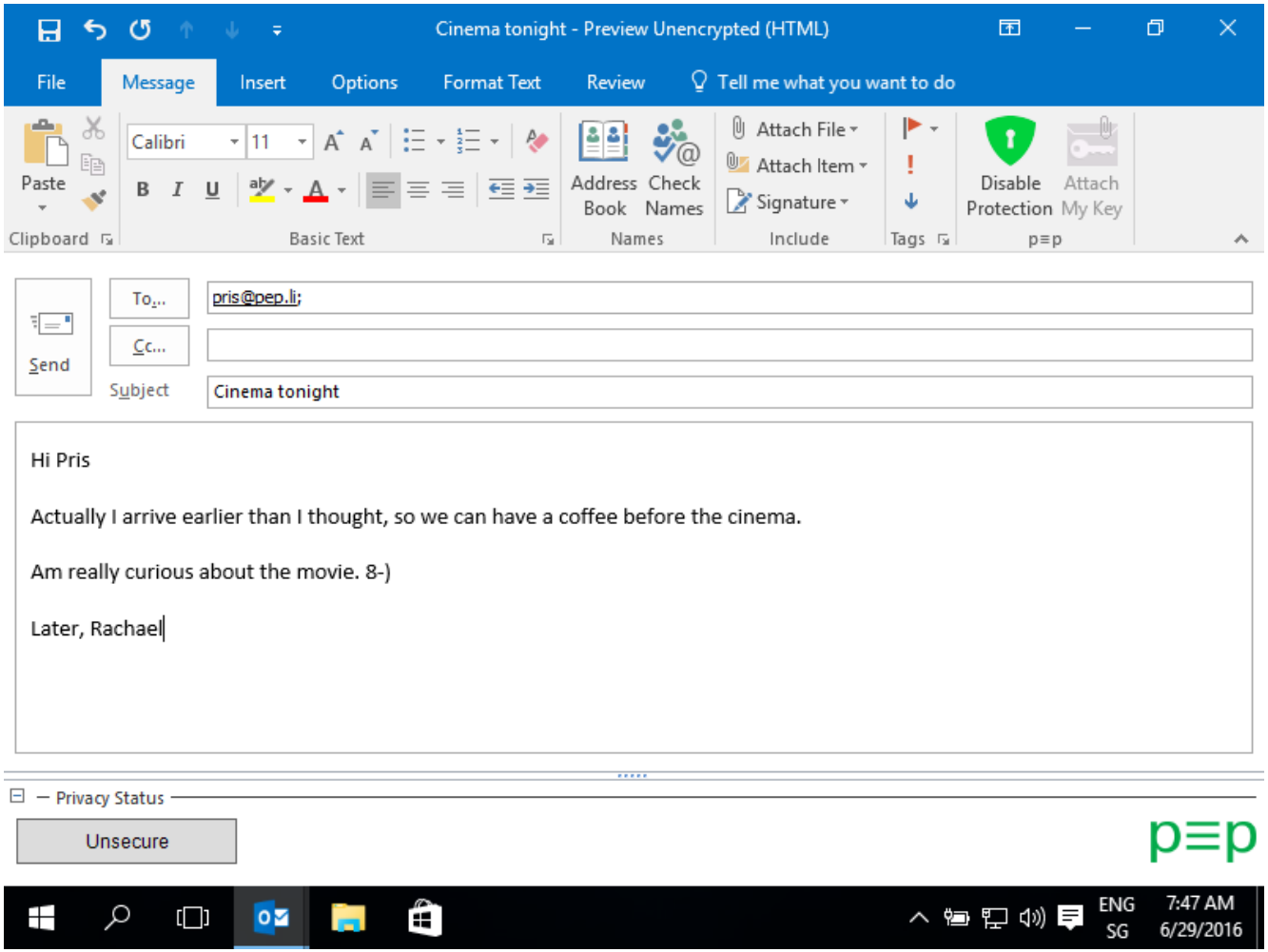
email_body(expr)	The UTF-8 normalized text of all email bodies. email_body('how to' and 'build' and ('bomb' or 'weapon'))
chat_body(expr)	The UTF-8 normalized text of all chat bodies. chat_body('how to' and 'build' and ('bomb' or 'weapon'))
document_body(expr)	The UTF-8 normalized text of the Office document. – Office documents include (but are not limited to) Microsoft Office, Open Office, Google Docs and Spreadsheets. document_body('how to' and 'build' and ('bomb' or 'weapon'))
calendar_body(expr)	The UTF-8 normalized text of all calendars. An example is Google Calendar. calendar_body('wedding')
archive_files(expr)	Matches a list of files from within an archive. For example is a ZIP file is transmitted, all names of files within are passed to this context. archive_files('bad.dll' or 'virus.doc')
http_post_body(expr)	The UTF-8 normalized text HTTP url-encoded POSTs. http_post_body('action=send' and 'badguy@yahoo')

TOP SECRET//COMINT//REL TO USA, AUS, CAN, GBR, NZL

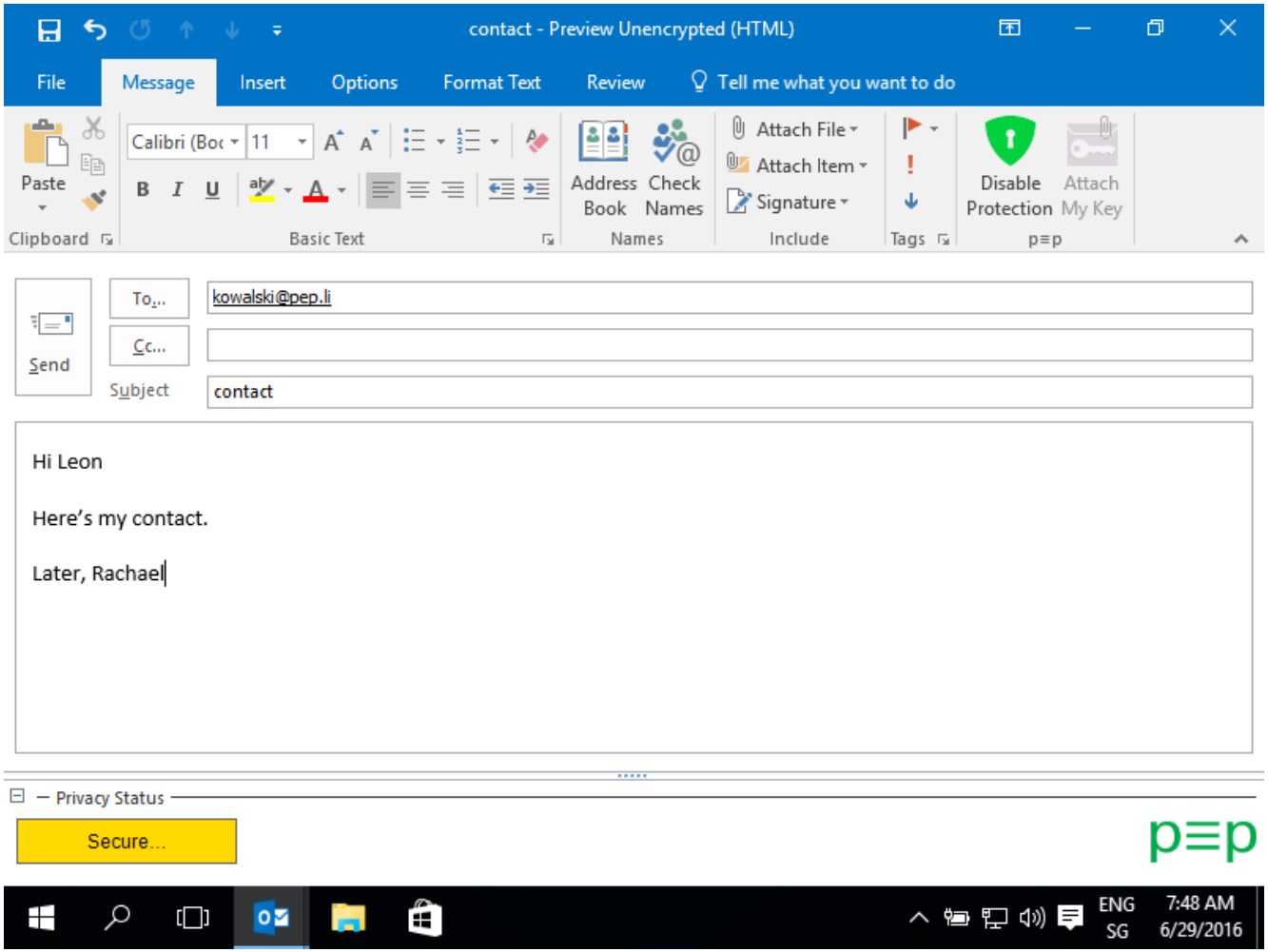
p≡p differences to current OpenPGP MUAs

- Keyservers are never used by default to prevent leakage of peer's social graph (by signings and queries) and MITM attacks (re-encyption).
- The sender's public key is attached by default.
- The subject field gets encrypted by default (by moving it into the body).
- Instead of fingerprints, *Trustwords* (16-bit mappings of 4-digit hexablocks to words) are used.
- p≡p has a rating system and communicates (graphically) a *Privacy Status* with traffic lights semantics to the user.

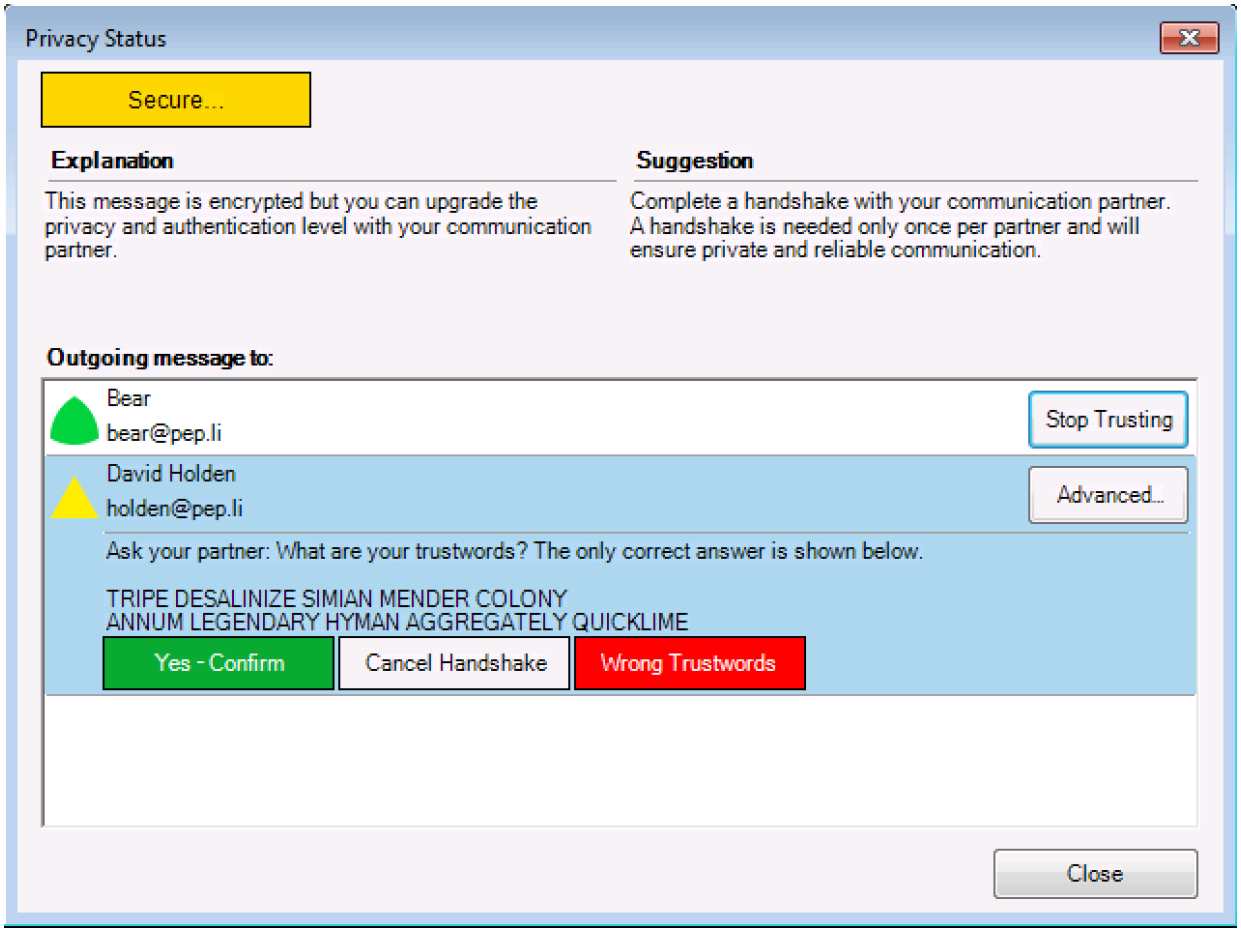
p≡p for Outlook: first email (unsecure)



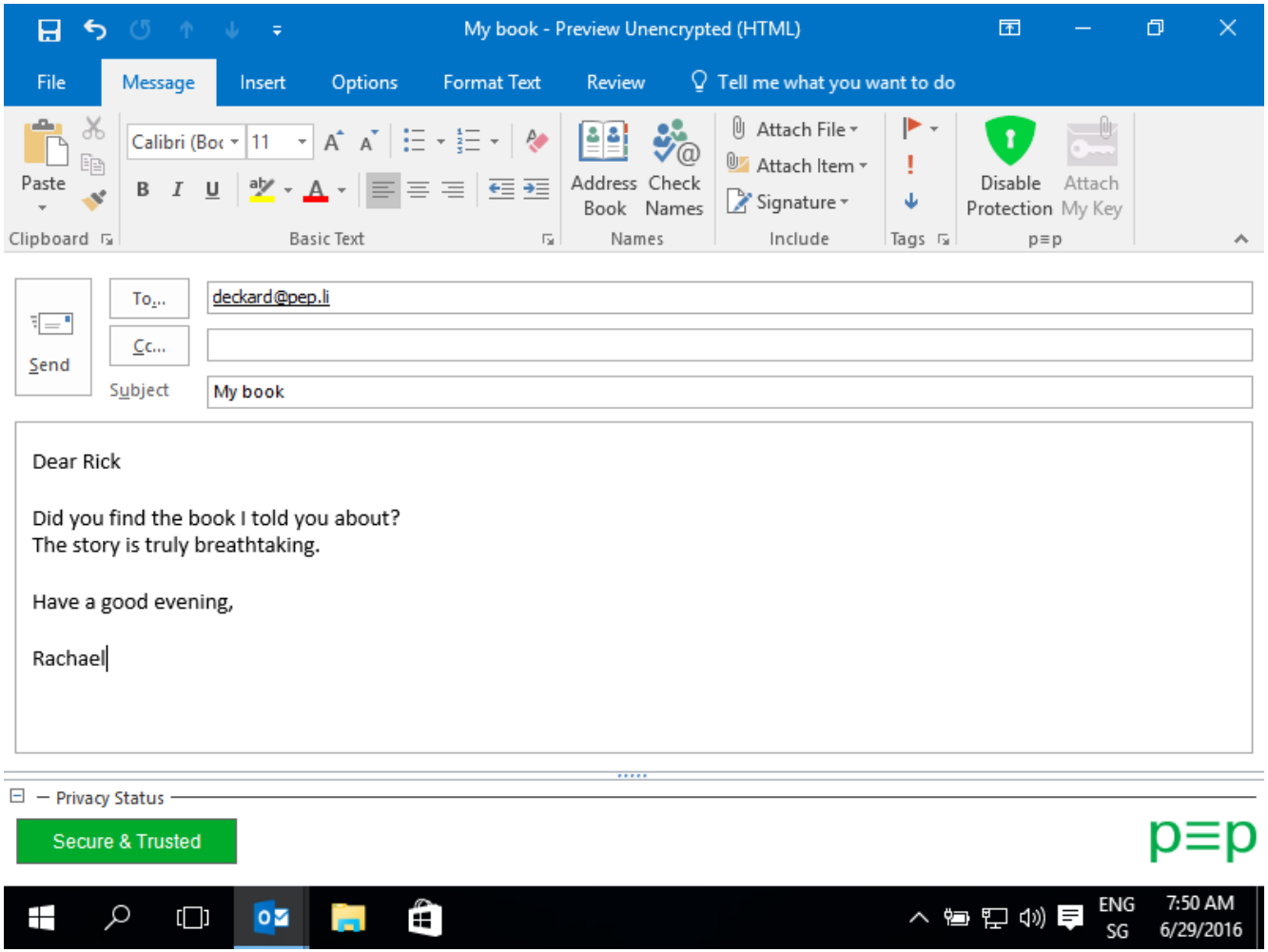
p≡p for Outlook: second email (secure)



p≡p for Outlook: Handshaking process



p≡p for Outlook: third email (secure & trusted)



- Fix last bugs of the *KeySync* protocol to build device groups of a user's owned devices (i.e., read encrypted messages across devices).
- Add more message transports to p≡p engine (e.g., XMPP/OTR and as of p≡p 2.0 GNUnet).
- Implement decentralized (cloudless) synchronization of calendar and contact data through the message transport channel.
- Make p≡p an Internet standard to allow for widespread acceptance and interoperability.
- Help fight mass surveillance, also politically!

p≡p foundation: for trust, security and community work

- The p≡p foundation is Swiss-based, tax-free (non-commercial) and controlled by privacy and digital (human) rights activists.
- The foundation holds ownership (under the GNU GPL v3) on p≡p's core (engine and adapters / bindings) and trademarks.
- We support community projects to implement p≡p and get their implementations (independently) code-audited: both support types can be of financial type.
- We also do political work and are free to support other FLOSS projects in the area of restoring Privacy, Freedom of Information and Free Speech (no strict p≡p relation needed).
- We actively collaborate with the Enigmail (on Enigmail/p≡p) & GNUnet projects and soon with ISOC Switzerland (ISOC-CH); this includes the open standardization of p≡p's protocols through the Internet community (IETF).

Questions

Aftermath

If you want to chat, share and work together: We are in building K, floor 1, group A with our friends of GNU Taler (and GNUnet) sharing a stand.